MPS 602

MEDIA PRESENTATION SWITCHER WITH TWISTED PAIR INPUT AND OUTPUT

Simplified AV Switching with Powerful Integration Capabilities

- Integrates HDMI, RGB, and audio sources into presentation systems
- Selectable HDMI or DTP 230 twisted pair output
- DTP 230 input and output extend HDMI or DVI, audio, control, and analog audio over one CATx cable
- Mic/line input with 48 volt phantom power and ducking
- HDMI audio embedding and de-embedding
- Optional integrated stereo or mono Class D power amplifiers

Extron Electronics
INTERFACING, SWITCHING AND CONTROL

Introduction

The Extron **MPS 602** is a simple-to-use, six input media presentation switcher for digital and analog sources. It offers digital video switching with three HDCP-compliant HDMI inputs and one DTP 230 twisted pair input, and analog video switching with two RGB inputs that are digitized for distribution to the digital outputs. For increased flexibility, the MPS 602 includes a DTP 230 twisted pair output and an HDMI output that are switch-selectable. The DTP 230 input and output extend video, audio, and bidirectional control signals to DTP 230 transmitters and receivers, each over a single CATx cable up to 230 feet (70 meters). The MPS 602 also includes several audio switching and processing features, available power amplification, plus flexible control options for complete switching and distribution with local and remote display support.

Integrated Digital Twisted Pair Extension

The DTP 230 twisted pair input on the MPS 602 can receive signals from a remote DTP 230 transmitter in areas such as a conference table, lectern, or wall for connecting a guest laptop. The DTP 230 twisted pair output can be used to transmit signals from an MPS 602 in a rack to a DTP 230 receiver behind a flat-panel display on a wall, above a ceiling-mounted projector, or any other remote location. DTP 230 transmitters and receivers are available in compact, low-profile enclosures or Decora® wallplate versions.

The DTP 230 twisted pair input and output include additional, convenient, integrator-friendly features designed to help simplify installation. Bidirectional RS-232 and IR signals can be inserted from a control system and transmitted over the single CATx cable together with the video and audio, enabling control of a source or display. Additionally, the MPS 602 can send power to the DTP 230 transmitter and receiver over the same CATx cable, streamlining system design and installation.

Reliable Switching for Digital and Analog Formats

The MPS 602 features a unique independent switching capability for digital and analog RGB video sources. The MPS 602 digitizes analog RGB input signals to ensure that a reliable, high quality digital video signal is sent to the HDMI and DTP 230 outputs. The RGB inputs can be switched independently to the local RGB output.

To enhance and simplify integration of sources and displays, and to help ensure optimal system performance and dependability, the MPS 602 features two Extron-exclusive technologies: EDID Minder® and Key Minder®. EDID Minder manages EDID communication between the display device and input sources to ensure that the correct video formats are displayed reliably. For HDMI signals with protected content, Key Minder authenticates and maintains continuous HDCP encryption between input and output devices to ensure quick and reliable switching.

Audio Integration Capabilities with Available Power Amplification

The MPS 602 includes six-input analog audio switching, a mic/line input with 48 volt phantom power, HDMI audio embedding and de-embedding, and several audio processing features for mixing and ducking. The mic ducking feature automatically reduces program audio when it detects a microphone signal, replacing the need for a separate audio ducking processor. To streamline audio setup, the MPS 602 features front panel mic and program audio output volume controls which allow for independent adjustment of mic volume, program audio volume, and muting.

The MPS 602 is available in three models, two of which feature integrated power amplifiers. The MPS 602 is a non-amplified model with a variable preamp output. The MPS 602 SA delivers stereo power amplification with 50 watts rms per channel into 4 ohms and 25 watts rms per channel into 8 ohms, while the MPS 602 MA provides mono 70 volt amplification with 100 watts rms output. Both of the amplified models feature an Extron exclusive Class D amplifier design with patented CDRS™ - Class D Ripple Suppression technology that provides a smooth, clean audio waveform as well as an improvement in signal fidelity over conventional Class D amplifier designs.

Features

Three HDMI inputs and two RGB inputs
The MPS 602 allows for switching between HDMI and analog video sources.

Selectable HDMI or DTP 230 output
The input signal can be routed to either the HDMI output or the DTP 230 output.

Independent RGB input switching
An RGB input can be independently switched to the local RGB output.

Compatible with all DTP 230 Series models
The MPS 602 supports DTP 230 twisted pair signal transmission of HDMI or DVI, analog audio, control, and remote power up to 230 feet (70 meters) over a single CATx cable.

Compatible with CAT 5e, CAT6, and CAT 7 twisted pair cable

Extron XTP DTP 24 Shielded Twisted Pair cable recommended
XTP DTP 24 cable is highly recommended for optimum signal transmission between the MPS 602 and DTP 230 transmitters and receivers.

Bidirectional RS-232 and IR insertion
Bidirectional RS-232 control and IR signals can be transmitted alongside video and audio over the DTP 230 twisted pair cable, simplifying integration with a control system for managing AV devices.

Digital conversion of analog input signals
The MPS 602 digitizes analog input signals, ensuring that a reliable, high quality digital video signal is sent to the output.

HDCP compliant
The MPS 602 fully supports HDCP-encrypted sources, with selectable authorization for unencrypted content.

Supported HDMI specification features include data rates up to 6.75 Gbps, Deep Color up to 12-bit, 3D, and HD lossless audio formats

EDID Minder
Automatically manages EDID communication between connected devices. EDID Minder ensures that all sources power up properly and reliably output content for display.

Key Minder
Authenticates and maintains continuous HDCP encryption between input and output devices to ensure quick and reliable switching in professional AV environments.

HDMI audio embedding
Analog input audio signals can be embedded onto the HDMI output signal.

HDMI audio de-embedding
Embedded HDMI two-channel PCM audio can be extracted to the analog outputs.

Mic/line input with 48 volt phantom power
A mic or line level audio source can be mixed with program audio. Selectable 48 volt phantom power allows the use of condenser microphones.

Mic ducking
Automatically reduces program audio when a microphone signal is detected, eliminating the need for a separate audio ducking processor.

Audio breakaway
Provides the capability to break an analog audio signal away from its corresponding video signal and route to the audio outputs, allowing the analog audio channels to be operated as a separate switcher.

Output volume control
The MPS 602 provides volume control and muting for the program and amplified audio outputs, as well as a separate control for mic volume and muting.

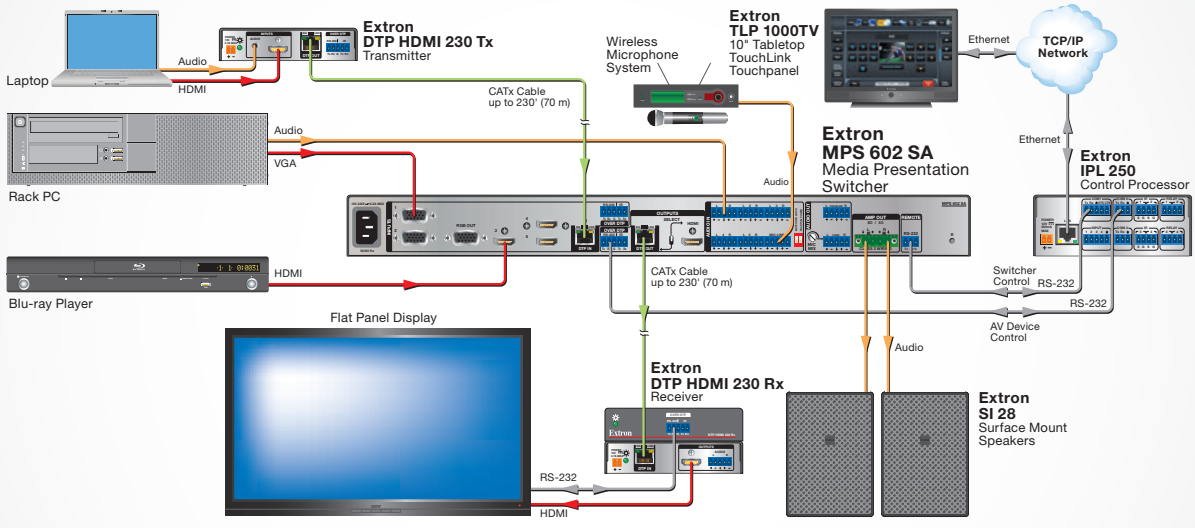
Auto-switching between inputs
Auto-switching allows for simple, unmanaged installation in locations such as in a lectern or under a conference table. When multiple inputs are active, the switching priority is configurable.

Front panel security lockout

Available power amplification
The MPS 602 SA includes a stereo power amplifier with 50 watts per channel into 4 ohms and 25 watts per channel into 8 ohms. The MPS 602 MA offers a mono 70 volt amplifier with 100 watts rms output.

USB and RS-232 control
The MPS 602 provides multiple control and monitoring options in addition to the front panel.

Rack-mountable 1U, full rack width metal enclosure



Features

COMPATIBLE WITH ALL EXTRON DTP 230 TRANSMITTERS AND RECEIVERS

The MPS 602 includes one DTP 230 twisted pair input and one DTP 230 output that support transmission of HDMI, analog stereo audio, and bidirectional RS-232 and IR signals over a single CATx cable up to 230 feet (70 meters). They can be mixed and matched with DTP 230 transmitters and receivers, available in low-profile enclosures and Decora wallplate models for HDMI or DVI. The MPS 602 can conveniently power these devices over the same CATx cable, and directly interface with control systems for sending RS-232 and IR control to remote devices. These capabilities allow system integrators to create flexible yet efficient system designs serving local and remote source and display locations in a variety of presentation environments.

INTUITIVE SETUP AND OPERATION

The MPS 602 can be easily configured by using the Product Configuration Software via the front panel USB port. The user-friendly GUI of the configuration software allows for expedited setup. The intuitive user-interface makes it easy to independently apply EDID settings to each input, allowing the user to select from EDID captured from connected output devices, factory default EDID, or custom EDID uploaded to the unit. Users can also view details about the current input and output, such as signal format, resolution, and HDCP status, and conveniently switch between the inputs. In addition, audio settings are available for input gain, volume, mic talk over, and more.

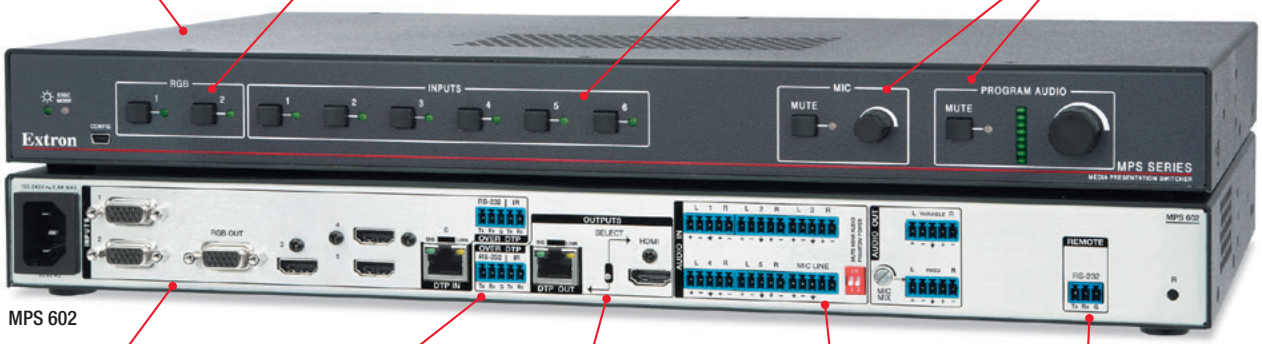
Overview

HDCP compliant
Worry-free display of protected content from digital video sources.

Independent RGB analog input switching
An RGB input can be independently switched to the local RGB output.

Analog and digital input switching
HDMI, DTP 230, or RGB analog inputs can be selected for independent switching to the HDMI or DTP 230 output.

Volume and muting controls
Allow for adjustment of the microphone level, as well as the program and amplified audio level.



MPS 602

HDMI and RGB inputs
Ensure compatibility with digital and analog sources.

Input and output for DTP 230 twisted pair extension
Support digital signal transmission up to 230 feet (70 meters) over a single twisted pair cable.

Selectable HDMI or DTP 230 output
The input signal can be routed to either the HDMI output or the DTP 230 output.

Mic/line input with 48 V phantom power
One mic/line input is available for mixing microphones or line level sources into the audio output.

RS-232 control
The MPS 602 can be controlled and monitored using serial commands.

MPS 602 SA

Optional integrated power amplifier
Two models are available with efficient Class D amplifiers: a stereo power amplifier with 50 watts rms output per channel into 4 ohms, and a mono 70 volt power amplifier with 100 watts rms output.

Specifications

VIDEO — VGA

Bandwidth	350 MHz (-3 dB)
Switching speed	<5 ms (max.)

VIDEO — HDMI AND DTP

Maximum data rate	6.75 Gbps (2.25 Gbps per color)
Maximum pixel clock	165 MHz
Resolution	1920x1200 @ 60 Hz or 1080p @ 60 Hz, 12 bit color, and 2K
Formats	RGB and YCbCr digital video

VIDEO INPUT

Number/signal type	
VGA inputs	2 VGA-QXGA, RGBHV, RGBS
HDMI inputs	3 HDMI (or single link DVI-D, with appropriate DVI-HDMI adapters)
DTP input	1 DTP 230 input
Connectors	
VGA inputs	2 female 15 pin HD
HDMI inputs	3 female HDMI, type A
DTP input	1 RJ-45 female

VIDEO OUTPUT

Number/signal type	
Local VGA output	1 VGA-QXGA RGBHV, RGBS
HDMI outputs	1 HDMI (or single link DVI-D)
DTP output	1 DTP 230 output
DTP signal	
Transmission distance	up to 230' (70 m) using CAT 5e/6/6a/7 cable or XTP DTP 24 TP cable
Cable requirements	Solid conductor, 24 AWG or better
Cable recommendations	400 MHz bandwidth, STP (shielded twisted pair)

NOTE: Extron XTP DTP 24 shielded twisted pair cable is strongly recommended for optimal performance.

AUDIO — INDIVIDUAL AUDIO GROUPS (VGA, HDMI)

Gain	Unbalanced output: 0 dB; balanced output: +6 dB
Frequency response	20 Hz to 20 kHz, ±0.5 dB

AUDIO INPUT — (VGA, AND HDMI VIDEO)

Number/signal type	
VGA inputs	2 stereo, unbalanced/balanced
HDMI inputs	3 stereo, unbalanced
DTP input	1 stereo, unbalanced/balanced analog, 1 embedded digital audio from DTP
Embedded digital audio source formats	2-ch PCM

AUDIO OUTPUT

Number/signal type	(2) stereo, balanced/unbalanced (fixed and variable outputs) (1) DTP 230 analog audio and 1 embedded digitl audio on DTP signal (1) embedded digital audio on HDMI
Connector	(2) 3.5 mm captive screw connector, 5-pole (1) RJ-45 (1) female HDMI type A

AUDIO OUTPUT — POWER AMPLIFIER

Number/signal type	
MPS 602 SA	1 stereo (default) or 2 mono, 2 channels total
MPS 602 MA	1 mono, 70V line
Output power	
MPS 602 SA	25 watts per channel, 8 ohms, 1 kHz, 0.1% THD 50 watts per channel, 4 ohms, 1 kHz, 0.1% THD
MPS 602 MA	100 watts per channel, 4 ohms, 1 kHz, 0.1% THD
Amplifier type	Class D

MIC/LINE INPUT

Number/signal type	1 mono balanced/unbalanced
Connector	(1) 3.5 mm captive screw connector
Input gain adjustment	-18 dB to +60 dB, 1 dB steps, adjustable per input
Microphone volume range	-66 dB to +12 dB
Microphone DC power	+48 VDC phantom power, can be turned on or off

NOTE: Mic/Line audio is not embedded on DTP analog audio output or digital embedded audio.

CONTROL/REMOTE — SWITCHER

Serial control port	1 RS-232, 3.5 mm captive screw connector, 3-pole, rear panel
USB control ports	1 front panel female mini USB B

CONTROL/REMOTE

External device (pass-through, unidirectional or bidirectional)	
Quantity/type	(2) RS-232 and IR via (2) 3.5 mm 5-pole captive screw connectors
Serial control pass-through ports	RS-232 and IR via (2) 3.5mm 5-pole captive screw connectors
IR pass-through control ports	(2) bidirectional TTL level (0 to 5 V) modulated infrared control from 30 kHz up to 60 kHz
IR control pin configuration	3 = GND, 4 = IR Tx, 5 = IR Rx

GENERAL

Power supply	Internal Input: 100-240 VAC, 50-60 Hz
Remote power capability	Supports up to two endpoints (one DTP Tx, one DTP Rx)
Mounting	
Rack mount	Yes, with included brackets
Enclosure type	Metal
Enclosure dimensions	1.75" H x 17.4" W x 8.5" D (1U high, full rack wide) 4.4 cm H x 43.2 cm W x 21.6 cm D (Depth excludes connectors and knobs. Width excludes rack ears.)
Regulatory compliance	
Safety	CE, c-UL, UL
EMI/EMC	CE, C-tick, ICES, FCC Class A, VCCI, ICES
Environmental	Complies with the appropriate requirements of RoHS, WEEE

Model	Version Description	Part number
MPS 602	Variable Preamp Output - No Amplifier	60-1313-01
MPS 602 SA	2x50 Watt Stereo Power Amplifier	60-1314-01
MPS 602 MA	100 Watt 70 Volt Mono Power Amplifier	60-1315-01

For complete specifications, please go to www.extron.com
Specifications are subject to change without notice.

Worldwide Sales Offices

Anaheim • Raleigh • Silicon Valley • Dallas • New York • Washington, DC • Toronto • Mexico City • Paris • London • Frankfurt
Amersfoort • Moscow • Dubai • Johannesburg • New Delhi • Bangalore • Singapore • Seoul • Shanghai • Beijing • Tokyo

UNITED STATES
+800.633.9876
Inside USA/Canada
+1.714.491.1500

EUROPE
+800.3987.6673
Inside Europe
+31.33.453.4040

ASIA
+800.7339.8766
Inside Asia
+65.6383.4400

MIDDLE EAST
+971.4.299.1800

© 2013 Extron Electronics. All rights reserved. All trademarks mentioned are the property of their respective owners. Prices and specifications subject to change without notice.

06-2013
68-2467-01
REV. A1
Letter - English - NP